

its Rectilinear Sides, did when produced pass exactly through the middle of that white round Image S. And when the Refraction of the second Prism was equal to the Refraction of the first, the refracting Angles of them both being about 60 degrees, the Axis of the Spectrum $3p\ 3t$ made by that Refraction, did when produced pass also through the middle of the same white round Image S. But when the Refraction of the second Prism was less than that of the first, the produced Axes of the Spectrums tp or $2t\ 2p$ made by that Refraction did cut the produced Axis of the Spectrum TP in the Points m and n , a little beyond the Center of that white round Image S. Whence the Proportion of the Line $3t\ T$ to the Line $3p\ P$ was a little greater than the Proportion of $2t\ T$ to $2p\ P$, and this Proportion a little greater than that of $t\ T$ to $p\ P$. Now when the Light of the Spectrum P T falls perpendicularly upon the Wall, those Lines $3t\ T$, $3p\ P$, and $2t\ T$, $2p\ P$ and $t\ T$, $p\ P$, are the Tangents of the Refractions; and therefore by this Experiment the Proportions of the Tangents of the Refractions are obtained, from whence the Proportions of the Sines being derived, they come out equal, so far as by viewing the Spectrums and using some Mathematical reasoning I could Estimate. For I did not make an Accurate Computation. So then the Proposition holds true in every Ray apart, so far as appears by Experiment. And that it is accurately true may be demonstrated upon this Supposition, *That Bodies refract Light by acting upon its Rays in Lines Perpendicular to their Surfaces*. But in order to this Demonstration, I must distinguish the Motion of every Ray into two Motions, the one Perpendicular to the refracting Surface, the other Parallel to it, and concerning the Perpendicular Motion lay down the following Proposition.

If

If any Motion with any velocity be directed on both sides through that space further Plane by the Plane is of the velocity of that Motion in space, shall be the Summ of the that Motion on and of the Square that Motion on at its Incidence little.

And the same Thing perpendicular space, if instead their difference. easily find out, der with it.

Suppose now Line MC be refracted CN, and if it be any other Ray A the Sines of incidence Sines of Refraction incident Rays be AC, and the Motion the refracting Plane guished into two AD is parallel, refracting Surface. emerging Rays be